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Vanpooling An Overview

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This report is intended to provide information on vanpooling as it exists in the United States. It is not a comprehensive treatise, rather the report emphasizes key features of vanpooling, with special attention being paid to implementation of vanpool programs and legal and insurance issues pertaining to vanpooling. Organizations in industry and government who are considering implementing or expanding vanpool programs will find the report useful.

Topics covered are vanpool program designs, vanpooling experience, insurance and legal issues, vanpooling costs, benefits, and the National Association of Vanpool Operators.

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VANPOOLING:
AN OVERVIEW

Region VIII
Denver, Co.

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V A N P O O L I N G :

AN OVERVIEW

by

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U. S. Environmental Protection Agency
REGION VIII
1860 Lincoln Street
Denver, Colorado 80295

February 1978

PREFACE

This report was prepared by members of the U. S. Environmental Protection Agency's Denver Air Task Force. The Task Force was established to help in the preparation of a local/state/federal government Action Plan for dealing with Metropolitan Denver's air pollution problems.

Since Metropolitan Denver's air pollution problems are caused primarily by motor vehicle emissions, reduction in single occupant vehicle use can lead to appreciable air quality improvements. In the short term, we see four alternate forms of transportation as having potential to replace the single occupant vehicle for certain trips -- carpools, buses, bicycles, and -- vanpools. The purpose of this report is to document our findings after a careful review of the literature on the subject of vanpooling.

The thrust of the report is implementation. We have attempted to identify the major issues and locate alternative means for implementing programs given certain constraints (e.g. reluctance on the part of employers to purchase or lease vans). Based on the success with vanpooling throughout the United States, we are convinced that vanpools are an important part of a total program to reduce single occupant vehicle use and concomitant decrease in air pollution.

DISCLAIMER

This report has been reviewed by the Air and Hazardous Materials Division, U. S. Environmental Protection Agency, Region VIII, and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the U. S. Environmental Protection Agency, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

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Although we were able to assemble a great deal of literature on vanpooling, we would not have been able to produce this report without the information we obtained from personal contact with those individuals currently managing vanpool programs. We are particularly appreciative of the enthusiastic responses to our inquiries from Tobias Kaye (Rides for Bay Area Commuters, Inc.), Stan Stokey (Tennessee Valley Authority), Helen Sever (3M Company), "Al" Duke (VANGO), George Tyson (Social Security Administration), and Gaylene Bailey (Caltrans).

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Finally, our typist, Lucille Johnston deserves our special thanks for typing this report.

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Summary of Vanpool Programs
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ABSTRACT

Since its inception in 1973 at 3M Company in St. Paul, Minnesota, vanpooling has developed into a major commuting transportation mode throughout the nation. This report reviews the diversity of vanpool program designs and vanpooling experience with some discussion germane to the Denver metropolitan area. Vanpooling in the public and private domains is surveyed. Vanpooling costs are discussed. Legal and insurance issues pertaining to vanpooling are surveyed in some detail. A brief discussion of the goals and purposes of the National Association of Vanpool Operators is included.

CHAPTER I INTRODUCTION

Our attitudes about the use of the automobile have changed since the nation became painfully aware of our critical energy supply situation in 1973-1974. Gasoline shortages and increased gasoline costs lead to a resurgency of carpooling and increasing mass transit use for commuting. Also, the vanpool concept was born.

Vanpooling is a direct descendant of carpooling, having its origins in the private sector. The 3M Company (St. Paul, Minnesota) is credited with sponsoring the first employer-based commuter vanpool program. The 3M Program, begun in early 1973, has since expanded to over 90 vans carrying approximately 10% of the employees centered at the 3M's St. Paul facility. The idea and practicality of vanpooling sold itself and now vanpooling is considered to be a viable, dynamic commuter mode of transportation. Certain provisions of the Federal-Aid Highway Act of 1976 will further facilitate the spreading of vanpooling throughout the nation. This Federal legislation provides monies to the states to encourage development of vanpool programs.

In vanpooling a large (usually 12-15 passenger) van is used for transporting employees who live near each other to work. The van is normally driven by one individual, unlike carpooling where the driving is usually shared. The driver provides certain services but rides free and has personal use of the van at nominal cost. Most vanpool programs are sponsored by large employers, however, there are a number of other vanpool concepts which have been proven effective.

In the following pages, the major issues surrounding vanpooling are discussed. First, we examine alternative program designs and nationwide vanpooling experience. Following this discussion, legal and insurance considerations are addressed. Finally, costs and benefits of vanpooling are described.

Our overall findings are then reported in a brief summary.

CHAPTER II VANPOOL PROGRAM DESIGNS

The design of a vanpool program, or how it is financed and administered, appears to be the key to how a vanpool program grows. Successful programs require management support as well as thorough administration.

Few programs are actually operated without some sort of subsidy. The subsidy may be only administrative support, e.g. vanpool matching services, marketing, or it may be amortization of company owned vans over a period of time assuming a zero discount rate. These subsidies are, however, insignificant in comparison to subsidies afforded conventional transit services. Furthermore, what may appear to be a subsidy by a private company may be more than compensated for by a reduced need for parking spaces (which saves a company a substantial amount of money).

We have been able to identify five different arrangements for vanpooling: owner (or leasee) operator, company-owned or leased, vanpool "brokerage," government guarantee and government-owned. Although each arrangement has its own unique benefits (as well as shortcomings), the most widely used and successful one is the company-owned or leased program. The number of examples of the other types of programs is somewhat limited, however, there are many situations where the company-owned program won't work. For this reason, we will describe each type of program with specific examples of each along with the advantages of that approach.

Owner/Operator Vanpools

The owner/operator vanpool system is the least structured of any approach. The van owner or leasee assumes total financial risk in case of any losses. He also can, within bounds, establish his own fare structure, set his own ground rules and chose the vehicle of his liking. The owner/operator system appears to offer the greatest degree of flexibility. It allows an owner to operate his vehicle at less than breakeven ridership if he wishes only to help defray the costs of van ownership. This approach seems quite desireable to van owners who have large families and would own a van anyway. Given the high cost of these vehicles (normally $8,000 - $10,000 list price) an owner/operator approach might allow an individual to purchase a van who normally could not afford to.

Although other options are now available, the Social Security Administration (SSA) vanpool program (Baltimore, Maryland) began with owner/operator vans. Based on a recent article on SSA's program, it would appear that some owner/operator vanpools will remain a part of its overall program. Owner/operator comments quite clearly indicate satisfaction with the present arrangement.

(Owner/Operator Vanpools-cont'd)

The major reason SSA's program began as an owner/operator system is a prohibition (to be discussed later) on the use of Federal vehicles for commuting. Until, and if, the law is changed, the owner/operator system may be the only option for many Federal government employees.

Company-Owned Vanpool Programs

The company-owned vanpool program is the most common and has been the primary cause of growth in vanpooling in the United States. In addition to the large programs such as 3M Company and Conoco, many companies have programs with only a "handful" of vans in operation. Unlike the owner/operator system, company sponsored programs do not burden the driver with financial risks. For his service, the driver normally receives benefits such as use of the van on weekends and evenings (for a per mile fee), a free ride to and from work, and, in some cases, a portion of the passenger fares. In addition to driving responsibilities, drivers usually are responsible for van maintenance including keeping the vehicle clean.

There are few disadvantages of this system. Fares are usually quite low due to economies of scale afforded large corporations (e.g. volume purchase, master insurance policies) and to "subsidies" (zero discount rate, use of company facilities for gasoline and maintenance and so on). The driver's personal use of the vehicle is often limited, for example, vans cannot be used for long vacations.

Vanpool "Brokerage"

For want of a better term, we have called the next category of vanpool program the "vanpool brokerage." A vanpool brokerage is a "third" party who provides vans to vanpoolers. The brokerage might be a private non-profit corporation or as in the case of the Tennessee Valley Authority (TVA), an employee's credit union. The brokerage serves vanpoolers who cannot procure a van through their employer. Their employer may be too small to initiate a vanpool program, may be prohibited by law from participating in vanpooling (e.g. government), or may simply not be interested in pursuing a vanpool program.

An example of a private non-profit corporation to promote vanpooling is VANGO in Metropolitan Baltimore, Maryland. VANGO was formed in July 1977 with the help of government funding. VANGO leases vans and enters into an agreement with a driver. Monthly fares charged by VANGO include: original vehicle cost, depreciation, maintenance, gas and oil, insurance, taxes, license, state inspection, administration and the use of a back-up van when required.

(Vanpool "Brokerage" cont'd)

Programs similar to VANGO exist or are in the formative stages. For example, Rides for Bay Area Commuters, Inc. (San Francisco) has recently completed its leasing agreement and is ready to begin operation in early 1978. Other organizations in existence include, VANGO-Hawaii and Commuter Computer (Los Angeles).

Another approach to the vanpool brokerage is used by TVA. Vans are procured by employee credit unions which administer the financial aspects of the program. The TVA Program has been successful, and is, to the best of our knowledge, the largest in the country.

Government Guaranteed Vanpools

In order to encourage employers to experiment with vanpooling, the government guarantee program has been developed. An example of this approach is the Denver Regional Council of Governments (DRCOG) Vanpool Demonstration Program. This program is just getting underway. The goal is to have approximately 20 vans on the road by August 1978. The Council of Governments, using federal and state funds, will cover any capital losses incurred by participating employers during the first twelve months of operation. The theory is that employers and employees will see the advantages of vanpooling and continue, and perhaps expand, the program after the first year. Removing the financial risks from the employer should encourage even small employers to consider vanpooling.

Another form of government guarantee is an "abort agreement" under a provision of the Emergency Highway Energy Conservation Act (Public Law 93-239, as amended). The abort agreement provides a mechanism whereby the Federal Government agrees to fund 90 percent of the losses incurred should a vanpool program be forced to terminate. Like the DRCOG's program, the guarantee is for twelve months. There is little in the literature about the use of these abort agreements. Scott Paper Company found that a delay of seven months occurred due to the time it took to negotiate an agreement. Scott Paper noted that the long delay resulted in a loss of employee interest in vanpooling.

Government-Sponsored Vanpool Programs

Because of restrictions on the use of government vehicles, there has been very little experience with government-owned vehicle vanpool programs. There are three examples in the literature: State of California, Utah County, Utah (this program has since been scrapped) and the Golden Gate Bridge, Highway and Transportation District (San Francisco, California). Other government vanpool programs that may be underway include the States of Michigan and Minnesota. The Michigan Department of State Highways and Transportation developed a detailed proposal for a vanpool program in August 1976. Data from this proposal are used later in this report in the discussion on costs. Since vanpooling is growing rapidly, the current literature may be somewhat out-of-date.

(Gov-Sponsored Vanpool Programs -cont'd)

Government programs that are in place or contemplated almost always require special legislation. For example, the sponsoring efforts of the California Department of Transportation were necessary to gain approval of Assembly Bill 3267. Legislation similar to the California Bill is currently under consideration by the U. S. House of Representatives. If passed, this legislation would open up new opportunities for vanpooling and carpooling for federal employees. In the interim, federal agencies must rely on third parties for vanpooling, for example, owner/operator or credit unions.

The key factor in obtaining enabling legislation to allow government-sponsored vanpooling is providing assurances to the public that vanpooling will pay for itself. The public is sensitive to how government vehicles are used. Conversations with General Services Administration personnel have revealed that they regularly receive complaints from citizens when they suspect a vehicle is not being used for "official business."

CHAPTER III VANPOOL EXPERIENCE

Overview

Since 1973 a wealth of organizational and operational experience has accumulated regarding vanpooling in the public and private sectors of the economy. Within the public domain, there are laws which prohibit using government vehicles for personal commuting, however, the State of California, as described later, changed a State Law to permit using state-owned vehicles for commuting. There are no Federally-owned vans in use for commuting. However, the Social Security Administration (SSA) in Baltimore and the Tennessee Valley Authority (TVA) in Knoxville, support and encourage vanpool programs. They do so by providing certain incentives, such as preferential parking for vans. Also, the credit unions for the TVA purchased vans for ultimate use by commuting TVA employees. A non-profit corporation, VANGO, has been formed to "encourage vanpooling in Maryland." This organization is Federally-funded and makes available its services without charge. Other non-profit corporations have been created to assist with van procurement by government workers.

The 3M Company established the first vanpool program in 1973. The Conoco vanpool program, although not an historical first, is nevertheless a major effort comparable in size to the 3M's program. Each firm has about 90 vans in operation. Other organizations with a significant effort in vanpooling are:

COMPANY	LOCATION	Number of vans
TVA	Knoxville, Tenn	150
Commuter Computer	Los Angeles area	70
Gulf	Houston, Texas	34
Ralph M. Parsons Co.	Pasadena, Calif	31
Cenex	St. Paul, Minn	21
General Mills	Minneapolis, Minn	17
Aerospace Corporation	El Segundo, Calif	17
Polisar Van Coop	Canada	16
Montgomery Ward & Co	Chicago, Ill	14
Nabisco	East Hanover, N.J.	13

Vanpooling in the Private Sector

Robert Owen of 3M is given credit for conceiving the idea of employer-sponsored vanpooling five years ago. The motivation to institute vanpooling arose because of the lack of adequate public transportation to and from 3M Headquarters in St. Paul, parking space problems for privately-owned vehicles, and the energy crisis.

A key motivation for Conoco and other companies for establishing vanpools was the conservation of energy. Since the 3M vanpool program has served as a prototype for other company-owned or leased vanpool efforts, it is described in detail. Some salient characteristics of its effort obtained from "The 3M Commute-A-Van Program Status Report II," are:

- 3M buys quality vans and depreciates them over four years. The vanpooling program is operated at a breakeven point. Riders pay monthly fees based on a fixed component (depreciation, insurance, etc.) and a variable operating cost (gasoline, oil, etc.) per mile.

- The variable fee approximates 0.10¢ per mile. Generally, a rider, depending on the distance travelled, will pay $20 to $40 per month.

- 3M selects the pool coordinator (driver) from volunteers. The pool coordinator is given administrative support by 3M. The pool coordinator selects the passengers, chooses the route or decides after consultation with the riders about central pick-up, such as, a park-and-ride location. The pool coordinator collects the fares, provides van maintenance and servicing and performs necessary administrative work. In turn, the driver rides free and has personal use of the van at nominal costs in the evenings and on the weekends.

- Vans are capable of carrying 8-15 passengers, with most vans having a maximum load of 12 people. A back-up van is made available for every 25 vans.

- The vanpool program is self-insured. This type of insurance is not uncommon with respect to major companies. (Insurance aspects of vanpooling are discussed elsewhere in this report.)

Vanpooling works at 3M. From its inception in 1973, with a pilot effort of six vans, the program grew to about 90 vans currently, and expansion is likely including development of vanpool programs in geographical locations other than St. Paul.

3M has studied its vanpool population and found, interestingly, that about 50% of the original vanpoolers and three of its initial pool coordinators are still in the program. Vanpooling also appeals widely to all segments of its workforce.

Sperry Univac instituted in 1976 a contractual vanpool program to transport employees between its four plants. Two vans and a school bus are in use. The Company's costs are about $15 per hour per van. It pays for the whole program. Since Sperry Univac previously paid its employees 0.12¢/mile for interplant travel, the cost per van is not prohibitive.

(Vanpooling Private Sector-cont'd)

Van leasing is a financial approach to providing vans for vanpools and is widely utilized in industry. A detailed discussion of this is included in the costs section of the report.

Winnebago makes its own vans. In 1974, the Company began its vanpool program with ten vehicles. The program now has 18 vans (passenger-buses) capable of carrying 19-21 people. Winnebago operates the program on a breakeven basis with average charges per month being close to $28. Median commuting distance is about 70 miles roundtrip. The driver collects the fares and receives a portion of income as well as riding free. Some employees commute interstate from Minnesota to the Iowa plant location without, as of 1976, experiencing regulatory constraints. Little growth in the program is anticipated although a waiting list of potential vanpoolers exists.

Denver Area Vanpool Programs

There is limited information available on vanpooling among Denver based companies. Johns-Manville, Conoco, Statirol and Sundstrand have currently or have had vanpool programs. Statirol, as of January 1978, has discontinued its vanpools. The U.S. Bureau of Reclamation has a vanpool shuttle bus service between various Denver hotel/motels and the Federal Center, and also to the airport. The service is used mostly by transients. We have no information pertaining to any government employee's commuting vanpools. Recently, Colorado's Governor Lamm has instituted two vanpools for State employees.

Conoco is a leading proponent of vanpooling in the Denver Metro area. The Company has recently increased its vanpooling effort so that now three 8-passenger vans are in operation. One van services the Applewood area, another the southwest area, and one the Northglenn area. The cost per ride is about $22 per month. The Company self-insures the program. Conoco also has two vanpools operating in Wyoming.

Johns-Manville, in implementing its vanpool effort, followed the 3M program. Three vanpools were tried; one failed, one lost money, and one is successful. This vanpool has ten people including the driver. The commuting distance is approximately 35 miles one way. The cost per passenger is determined from a fixed and a variable component. The latter operating expense is about 0.10¢/mile. The vanpool has a breakeven load of eight people.

Sundstrand has an inter-company van shuttle between two Company locations. The 8-passenger van travels about 15 miles one way, six times a day.

(Denver Area-cont'd)

Statirol had two company-owned vans for vanpooling in use for over a year but because of an economy move and geographical dispersion of employees' residences, the Company as of January 1978 no longer has its vanpool program.

In discussions with several major private sectors employers in the Denver area, we have learned that several companies are developing vanpool proposals for consideration by top management.

The Bureau of Reclamation, as a service for its official visitors, has two 15-passenger GSA-owned vans in use for its van shuttle between hotels and motels in downtown Denver and the Federal Center. Usually about twelve passengers ride each van daily. Morning and afternoon service is provided. A van is used to transport people to the airport in the afternoon on an "as needed" basis.

Government Vanpool Programs

Nearly all levels of government operate under laws which prohibit the use of publicly-owned vehicles for employee commuting. It is this basic issue that inhibits the very successful concept begun by 3M Company as far as the public employment sector is concerned. In some cases the law has been changed, however, in most instances alternative van procurement avenues have been explored.

Although there are a number of government-endorsed programs in operation, this report examines four specific ones in some detail... TVA (quasi-U.S. Government), Social Security Administration (Baltimore, Maryland), California Department of Transportation and Aerospace/Air Force. Each of these programs is quite unique in terms of van procurement.

TVA - As of early 1977, the TVA vanpooling program had approximately 150 vans, making it the largest employer-based vanpool program in the United States. The program is still growing and is expected to reach 300-400 vans in the next few years.

The TVA program began in 1974 in Knoxville, Tennessee with a fleet of six 12-passenger vans leased from Hertz Rent-a-Car. The program is operated by an agreement between the TVA and TVA Employees Credit Unions. This agreement delegates the responsibility for leasing or purchasing vans and overall financial administration of the program to the Credit Unions. This arrangement is necessary because of TVA's quasi-government status. Use of government-owned vehicles for employee commuting is expressly prohibited by Federal Law. Daily program administration is provided by TVA's commuter transportation staff who establishes and maintains vanpool membership and provides technical assistance to credit union staff as well as to vanpool drivers.

Monthly fares charged vanpool members range from $18 to $46. Ten paying passengers are assumed in computing fares. The typical van can accommodate 15 passengers and is equipped with an 8-cylinder engine, front and rear air conditioning, a rear auxiliary heater, power steering and power brakes.

As in most vanpool programs, driver's responsibilities and benefits include:

(1) Operating and establishing vanpools.
(2) Arranging for van maintenance.
(3) Selection of alternate driver(s).
(4) Use of the van for personal reasons at 10¢ per mile.
(5) Free transportation to and from work.

SSA - The SSA Headquarters in the Baltimore area has over 22,000 employees. Since transit service to these employees is limited, SSA began a vanpooling program in 1976. The initial vanpool was formed using the owner/operator concept with SSA providing help through a fulltime vanpool coordinator. The vanpool coordinator provides assistance with van procurement, legal requirements and reserved parking.

The owner/operator concept was necessary because of the legal constraint discussed previously regarding the use of government-owned vehicles. Since late 1977, the SSA (as well as other Baltimore area employees) have had the benefit of VANGO, a non-profit vanpooling corporation. The program can be briefly described as follows. VANGO provides vans to groups who meet their criteria for a monthly fee. The financial risks associated with van ownership are the burden of VANGO rather than a private owner as in SSA owner/operator system.

The SSA van fleet consisted of 16 vehicles as of January 1, 1978, and is expected to grow to 21 vehicles by February 1978. The SSA vanpool coordinator is confident that the availability of the VANGO services will spur growth in vanpooling considering the large market potential at SSA.

Under the owner/operator system, monthly vanpool fares range from about $21 to $37 depending primarily upon the trip length. Some owner/operator vanpools are not operated at a breakeven fare due to the driver's desire to only help defray the costs of van ownership. Fares charged by VANGO-sponsored vanpools should be comparable (perhaps slightly higher).

California Department of Transportation - The California Department of Transportation (Caltrans), Office of Ridesharing in Sacramento began planning their in-house vanpooling program in the winter and spring of 1974-1975. The first three vans began operation in July 1975.

Because some of the members of the State Board of Control questioned the Board's authority to grant an exception to the rule, the State vehicles could only be used for official state business and Caltrans sponsored special legislation. Assembly Bill 3267, passed in July 1976, became effective January 1, 1977. This Bill allows the Board of Control to establish rules under which state-owned vehicles can be used for other than official business. Assembly Bill 3267 is reproduced in the Appendix of this report.

The program was initiated by the Office of Ridesharing which leased three vans through the state bidding process. Insurance was provided through the State's Master policy. Liability coverage is $2 million while general coverage is $50 million.

Fares are calculated based on 11 riders per van and vary from approximately $32 to $50 per month, depending on distances traveled.. Round trip mileages are quite high (approximately 80 miles). Vans are used for state business during the day and a per mile charge is credited to the van fund.

There were 11 vans in the Caltrans program in Sacramento as of January 1978. Eight additional vans are expected to be in operation by 1979.

Aerospace Corporation/Air Force - A vanpooling program was begun in April 1975 by Aerospace Corporation and the Air Force Space and Missile Systems Organization (SAMSO) in El Segundo, California. Although the program is jointly sponsored, vans are procured through leasing by the Aerospace Corporation. Fuel and maintenance service are partially provided by Aerospace facilities and charged back to each van on a per-mile basis.

The Aerospace/Air Force program had 20 vans as of early 1977. There were 225 vanpoolers involved (175 Aerospace employees, 50 Air Force employees). A unique fare system is utilized. Regular riders pay 1/3 of the total monthly fare in advance and then are assessed a daily rate for each day they actually ride. The monthly assessment ranges from $13 for a 50-mile roundtrip to $19 for a 120-mile roundtrip. In addition to the monthly rate, passengers pay a daily charge of between $1.50 and $2. The system works well because of the frequent business travel that Aerospace and Air Force personnel are involved in.

(Gov. Vanpool Program - cont'd)

A breakeven load of eight passengers is included in the calculation. Unlike most vans involved in vanpooling, 18 of the Aerospace vehicles are equipped with aircraft-style seats. This limits the passenger capacity of the vans to eight, plus the driver.

The program is administered by Aerospace personnel on their own time and operates at no cost to Aerospace Corporation. The program is self-insured for collision. Liability insurance is charged back to the vanpool participants under a special policy.

CHAPTER IV INSURANCE ISSUES

This topic, as well as the legal issues pertaining to vanpooling, is quite complex. Certain large corporations, such as 3M or Conoco, self-insure the vanpool efforts. Details on these programs have not been well publicized. Hence, this discussion pertains to only the non-self-insured vanpool programs. The discussion is not intended to be definitive or exhaustive, but rather to alert potential sponsors and participants to the major legal issues involved so that they may make whatever further inquiries they deem necessary.

The DOT report by Frank W. Davis, Jr., et al "Insurance for Vanpools: An Analysis of Current Issues and Progress," is the most cogent current treatise on this topic and is liberally paraphrased or quoted herein and in the subsequent legal section. Other resource material has been surveyed and is incorporated herein.

Historically, insurance companies and the courts have made decisions about vanpools from experiences with carpool or public transit conveyances. In many ways, vanpooling is a hybrid of both modes of transportation, but since nearly all viable vanpool programs operate on a breakeven financial basis, vanpooling is regarded as being closer to carpooling than to being a public conveyance.

In carpools, frequently, the drivers/riders rotate roles. Insurance companies recognize that in a four-passenger carpool, for example, there is only one vehicle on the road, not four. Since one vehicle has less chance of an accident than four, insurance companies tend to offer lower rates (perhaps 10-20% less expensive) to carpoolers than to commuters who drive single occupant vehicles. But insurance companies also realize that, aside from possible liabilities to occupants of another vehicle, a single occupant vehicle accident endangers only the driver of the car, whereas, a carpool has a concentration of people increasing requirements for insurance coverage.

This situation is more complex in vanpools. Unlike carpools, one person serves almost daily as the van driver. In automobile accidents, on the average about 1.3-1.5 passengers per vehicle are affected. If a van accident should occur, there could be 8-12 passengers involved. Financial losses could be very high and insurance companies are extremely concerned about catastrophic losses by concentration of liability.

For the above reason, because vanpooling is a relatively new idea, and for various other reasons, there has been some difficulty experienced in obtaining insurance, although the difficulty is decreasing.

The insurance industry has established new criteria for vanpool coverage. There are now four categories of vanpooling for insurance purposes:

1. Shared driving pools - a group of individuals alternate driving the pool and the insured vehicle is not driven more than twice a week nor two weeks per month for commuting purposes.

2. Privately-owned, shared expense pools - the pool members ride in the same vehicle every day and contribute to the expense incurred by the driver.

3. Employer provided pools - the pool riders are employees of the same firm where ridership in the pool is a condition of employment, an inducement to employment, or incidental to employment of the riders.

4. All other pools - all other pooling arrangements whether third party operators, multiple employment center pools or employer pools where workmen's compensation probably will not apply.

Under this approach, the shared driving pools and the privately-owned shared expense pools would continue to be included in the private passenger manual, and the fact that they are used as pool vehicles would not be a factor in their rating. If the vehicle is owned by an individual and not used for "business purposes," then it will be rated from the private automobile manual. The employer-provided pools and all other pools will be listed in the commerical manual as "vanpools." Commuting and commuter pooling are not considered a business purpose, but if the vehicle is to be used to haul tools between work sites, used for messenger or delivery service, and/or used in other activities in the normal course of employment, then this use would place the vehicle in the commercial manual. If the vehicle is owned by a company, corporation or governmental agency, then it is considered a commercial vehicle.

The employer sponsored pools are based on the premise that in many cases the workers will be covered by workmen's compensation and not by the vehicle liability policy. Since the legislation is not specific on this in most states and case law is not well developed, it is still uncertain as to how injuries will be covered. The insurance industry, however, has been willing to insure employer pools at a lower rate and assume the risk until such time as case law and vanpool statistics establish a more reliable base.

In most states the van rider may be covered by a number of diverse insurance policies, such as, disability, general or automobile liability, uninsured motorists, workmen's compensation, automobile medical, or hospitalization insurance.

[1]Insurance Services Office Classification Manual

The van driver needs to be adequately protected. This means that a catastrophic umbrella coverage should be written into the policy. The TVA credit union program requires this type of coverage for the van and driver.

Type	Liability Limit
Bodily Injury	$500,000/$500,000
Property Damage	$50,000
Medical Payment	$1,000
Uninsured Motorist	$10,000/$20,000
Comprehensive	Actual Cash Value
Collision	$100 deductible
Catastrophic Liability Coverage (Umbrella)	$5,000,000

The cost for this insurance is about $50 per month per van. In Denver this same coverage would cost between $40-60 per month per van.

The gist of this discussion on insurance is that a vanpool driver must be adequately insured and this will be expensive. The cost of the insurance should be passed on to the riders. Further, the rider should ascertain that adequate insurance is provided by the driver or the person or entity furnishing the van.

CHAPTER V LEGAL CONSIDERATIONS OF VANPOOLING

As mentioned previously, within governmental sectors there are legal restraints on using publically-owned vehicles for personal transport of employees between residences and work locations. For example, Federal Law 31 USC 638(a)(c) prohibits the use of Federal funds for providing"transportation of officers and employees between their domiciles and places of employment...." Because of this language, no Federal agency provides commuting transportation for its employees. However, agency supported vanpool efforts do exist. For example, employees of the Social Security Administration in Baltimore and the TVA in Knoxville commute to and from work in vans owned or financed by their credit unions.

The State of California was sufficiently concerned and motivated about means of cutting down on vehicular pollution and conserving energy that it amended a law to authorize use of "state-owned vehicles as commute vehicles in a carpool or vanpool program." The Governor approved the law on July 8, 1976. Caltrans, described elsewhere in this report, supervises the eleven van program.

Vanpooling is widely employed and is growing in the private sector. The legal restraints, so prominent in the government sector, are not operative in the private domain. However, a number of legal questions about vanpooling have been encountered.

1. Liability of the Driver

The seminal issue here is the legal definition of vanpooling. If it is "common carriage," then "extreme care" for the safety of passengers is required of the driver. If it is "contract carriage," then "ordinary care" is required. If vanpooling is regarded as personal use of a privately-owned vehicle, then, in Colorado, the driver is also under an obligation to exercise ordinary care for the passenger's safety.

The vanpooler will not be required to exercise the very high degree of care required of a common carrier because the vanpooler is not a common carrier. The accepted and well recognized definition of a common carrier, as stated by the court in the case of State ex rel. Public Utilities Commission of Utah v. Nelson (1925), 238p.237, is as follows:

"... a common or public carrier is one who, by virtue of his business or calling or holding out, undertakes for compensation to transport persons or property, or both, from one place to another for all such as may choose to employ him. Running through the cases is a recognition of the dominant element of public service, serving and carrying all persons indifferently who apply for passage ...."

There are practically no cases dealing with vanpool liabilities. One case that is in point involved a person who transported his own child to and from school each day and carried other children for compensation. A child was injured, and the lower court applied the standard of care required of common carriers. The Superior Court of Pennsylvania reversed the lower court, holding the driver to be a private carrier operating under special contract. The correct degree of care required of private carriers is ordinary care. Lazor v. Banas, (1934) 174 A.817.

It is unlikely a vanpool would be considered a "common carrier" in Colorado since the Colorado statute defines "common carrier" as "indiscriminately accepting and carrying for compensation passengers or property..." C.R.S. 1973, S40-1-102(3).

Usually, a Public Utilities Commission (PUC) or the equivalent has not regarded vanpooling as a public conveyor in the sense of a public bus or taxi system, in part because vanpools frequently operate on a financial breakeven basis, not as a profit making entity. In Colorado the PUC has regarded carpooling as "casual transportation;" most likely, vanpooling will also be so viewed by the PUC.

Under Colorado law, the critical factor in determining if a carpool or vanpool program falls within the regulatory jurisdiction of the PUC appears to be whether or not it involves transportation for compensation. The PUC has not promulgated any regulations nor issued any guidelines or policy statements to aid in determining whether carpooling or vanpooling arrangements fall within the somewhat vague statutary language. However, it is presently taking the position that the sharing of expenses does not of itself constitute compensation. An arrangement whereby the driver obtains some special benefit, such as the use of a company or government vehicle in the evenings and on weekends, present a closer question. Perhaps the most that can be said is that the PUC has not, thus far, shown any eagerness to become involved in regulating these types of programs.

On the other hand, judicial decisions would not relieve vanpoolers from ordinary negligence. As previously discussed, a person who carries a specific group of passengers to and from work pursuant to a contract to that effect and in exchange for compensation is a private carrier. As a private carrier, vanpool drivers are responsible for exercising ordinary care for the safety of their passengers. In many states, it would be significant if the vanpool would be considered as a private passenger vehicle, since "guest" statutes would then require only "slight care" of the driver. However, Colorado does not have a "guest" statute so that even if the vanpool were treated as a private passenger vehicle, the driver would still be under a duty to use "ordinary care."

2. Possibility that Driver's Negligence will be Imputed to Passengers

Imputing the driver's negligence to the vanpool passengers can have two possible effects: vanpool members may be jointly liable with the driver for negligence causing injuries to third persons; and vanpool members may be barred, in whole or in part, from recovering from a third person whose negligence, together with the negligence of the vanpool driver, causes them injuries.

The theory of imputed negligence is variously predicated upon concepts of joint enterprise or joint venture, on the basis of which each member of the enterprise is held responsible for the negligent operation of the motor vehicle (regardless of which member is the driver or who owns the vehicle). Imputed negligence rests upon a showing that the vehicle was operated for a common purpose and that each member of the joint enterprise had an equal right (whether or not exercised) to control the operation of the vehicle.

It is unsettled whether vanpool arrangements fall within the above category, subjecting members to the possible consequences of imputed negligence. Whether or not the doctrine is applicable may well depend upon the particular vanpool arrangement. (It should be noted, however, that it is generally held that the negligence of the driver will not be imputed to the passengers for the purpose of barring recovery by them for personal injuries resulting from the driver's negligence.)

3. Responsibility of Sponsors of Vanpooling Programs

There is an absence of legal precedents bearing directly upon the question of whether sponsors of voluntary vanpooling programs may be required, as a matter of law, to provide assurance of any kind with respect to vehicle or driver safety. However, the responsibility of the sponsor will probably depend upon what kind of pooling arrangement the sponsor organizes -- the less mandatory the plan, the less likelihood of sponsor liability. Thus, it is unlikely that the sponsoring agency would be held to a standard of care to investigate questions relating to safety and security of vanpool participants in any case where, as sponsor, it organizes and administers a voluntary vanpooling program in which drivers and passengers with common transportation interests are identified and matched but are not assigned or in any way compelled by the sponsor to participate.

Although it would not appear that an agency or an employer which simply sponsors or renders limited assistance in the development of a vanpool program would, as a general rule, have responsibility to take any steps to secure passenger safety, a standard of care may be imposed upon the sponsor if the nature of the program is such that there is reason to believe that the participants may rely upon some effort by the sponsor to determine whether the transportation offered by the program is reasonably safe. For example, if the vanpooling

plan has been imposed upon employees by an employer as a condition of employment and the employer or sponsoring public agency actually assigned employees to a specific vanpool, a standard of care to make some investigation with respect to safety matters may arguably be implied, upon a contract or tort basis. Similarly, a labor organization which, in conjunction with an employer, participated in the establishment and management of a planned transportation program of this kind, may also be exposed to liability upon this basis. And, of course, the most likely situation in which liability would be imposed upon the sponsor is one in which the sponsor provides and services the vehicle; the sponsor would necessarily be responsible, at a minimum, for its condition.

Two other issues deserve note. One is the possibility that Colorado workmen's compensation statute would be found to cover particular types of vanpool programs. Although the general rule is that injuries sustained by an employee off the employer's premises, outside of the fixed hours of employment, in the course of commuting to and from work, are not compensable under the statute, there is a recognized exception where special circumstances are found to create a causal connection between the conditions of employment and the resulting injury. In a recent Colorado case, in which an employee slipped and fell in a parking lot adjacent to her office building, it was held that, because free parking in the lot was a fringe benefit of her job, she was entitled to receive workmen's compensation benefits. This reasoning might be extended to cover the situation in which a vanpool program was provided as a "fringe benefit" by an employer, as where the company furnished the vehicle.

It has been held that where there is an express or implied contract by the employer to furnish transportation to the employee, and an injury is sustained by the employee on the way to or from work, that such injury is covered by workmen's compensation. As to the typical employer promoted vanpool arrangement, whether this involves an express or implied contract on the part of the employer to provide transportation is an open question.

On the other hand, if there is no express or implied contract on the part of the employer to provide transportation for its employees, and an employee is injured while riding to or from work with a fellow employee, the cases generally hold that the compensation acts do not provide protection.

There is also a question regarding an employer's liability to third persons injured because of the negligence of an employee driving a motor vehicle for carpool or vanpool purposes. Colorado follows the common law rule that mere ownership of a motor vehicle does not make one responsible for the negligent acts of another to whom the vehicle is loaned. However, if an employee is operating a vehicle within

the scope of his or her employment, even if it is not the employer's vehicle, the employer will be held responsible for the negligent acts of the employee, under the doctrine of respondeat superior. (This in no way relieves the employee of his or her responsibility; rather, the injured third person may sue either or both.) Thus, the employer's liability will depend upon whether the carpool or vanpool arrangement is such that the driver can be said to have been performing services necessarily incidental to his or her employment so as to bring his or her actions within the scope of employment.

Complex legal and insurance questions have evolved around the Fellow Servant Doctrine. The crux of this doctrine is that an employer is not liable for "injuries caused solely by the negligence of a fellow employee." This common law doctrine limits "vicarious" liability of the employer for negligence caused by employers occurring in place of scope of their employment. In using a company van in transporting employees to or from work, and if an accident should occur, then the employer would not be held liable. The Fellow Servant Doctrine impacts workmen's compensation coverage. If commuting travel is a part of the employer's responsibility and if an accident occurred, the injured person would be partially covered by workmen's compensation and this would limit the liability of the insurance company. In most states, unless otherwise contracted, commuting travel to and from work is not a responsibility of the employer and has not been covered by Workmen's Compensation Law. However, as of late December 1977, the Insurance Services Office in Colorado has said that workmen's compensation benefits would apply to an employee if a commuting accident occurred in a company furnished van for vanpooling.

4. Waiver/Limitation of Liability

The major concern of insurance companies involves the liability of the van driver to the passengers. Because of this concern, the possibility of limiting this liability by adding a limitation of liability clause to the standard rider contract was investigated. Unfortunately, no reliable method was discovered by which a driver can limit the liability contractually. (Each state is a separate jurisdiction and the rule is for each state to be examined separately to determine the rule of law applicable in each jurisdiction.)

It is possible of course to draft a clause that would serve to limit the driver's liability to the riders and include the clause in the ridership contract. The major question is whether a court of law, when faced with a defense to a tort suit based upon the contractual limitation of liability, would give legal effect to the clause. Generally, agreements that purport to release a party from liability are not favored. For instance, a New York court stated the general rule: "The general principle that contracts breaking down common-law liability and relieving persons from just penalties

for their negligent and improper conduct are not favored." Johnson v. Fargo, 4th Dept. 1904, 98 App. Div. 436, 90 N.Y.S. 725.

5. Compensation/Internal Revenue Service Issues

The following statement from the Cumulative Bulletin of the Internal Revenue Service (IRS) 1955-2C.B.20 (also Section 262. Rev. Rul. 55-555) describes the IRS position with respect to carpools:

"It has long been the position of the Internal Revenue Service that a carpool arrangement in which the members share the responsibility for furnishing transportation to and from their places of work and each takes his turn at driving his own automobile is not an arrangement which gives rise to taxable income or deductible expenses. The Service has been asked whether the same rule applies to a carpool arrangement in which only one member used his own automobile and his fellow members pay him a stated sum of money for transporting them to and from work.

It is the position of the Service that money received by an automobile owner from fellow employees for transporting them to and from work constitutes reimbursement by them for their share of the personal expenses incurred in the operation of the automobile for their mutual convenience. Such money is not includible in computing the gross income of the automobile owner for Federal income tax purposes. The automobile expenses incurred by him in commuting between his home and place of employment are personal expenses for which no deduction is allowed for Federal income tax purposes. However, this Revenue Ruling is not intended to apply to the situation where a particular car owner has developed his carpool or vanpool arrangements to the extent that he can be said to have established a trade or business of transporting workers for hire from which a profit is derived."

No doubt the same ruling would apply to vanpools. This current IRS position implies that there are no significant income tax problems with respect to vanpools. However, if special incentives, such as employees subsidies or extra payments for serving the handicapped are introduced, then problems may arise.

Vanpool users should also consider the following factors:

- Commuting costs are non-deductible expenses.
- Since a share-cost arrangement is not a trade or business, the use of a private auto in vanpool service does not change the auto's status as a non-depreciable cost.
- While state and local tax implications should be investigated on a local level, it is not expected that the rulings would differ significantly from the above IRS position.
- Conflicts with IRS rules can be minimized by encouraging only those incentives which do not generate taxable income.
- If vanpools are developed on a taxable basis, a vanpool club or other institutional framework might be created to handle taxes insurance, regulatory reports, and if necessary, customer billing procedure.

CHAPTER VI COSTS OF VANPOOLING

The costs associated with vanpooling are basically the same as those associated with the private motor vehicle. Fixed costs include interest, depreciation, insurance, license, taxes, safety inspection fees and parking. Variable costs include gasoline, oil, maintenance and tires. Vanpool fares are normally established to cover these costs. Establishment of fares is a function of the program design (as discussed previously).

In order to gain some insight as to the actual costs associated with vanpool programs, data from four sources have been summarized in Tables I and II. Each program is somewhat representative of a different approach to program administration.

The Conoco program is a typical example of the approach used in company-sponsored vanpool programs.

Tennessee Valley Authority (TVA) is an example of the "third party" approach. In TVA's case, employees credit unions provide the financial backing for the program.

The data from Michigan illustrate the costs involved in a government-sponsored vanpool effort using leased vans. The data from University of Tennessee are generalized figures arrived at during the course of developing a report for the Urban Mass Transportation Administration.

CHAPTER VI

A Comparison of Costs from Selected Vanpool Programs

The fixed vanpool costs summarized in Table I vary over a considerable range ($125 to $287 per month). The situation can be explained by an examination of the actual items included in the cost. Most estimates do not include administrative expenses, for example, some include salvage value, others (TVA) do not. Another item of significance is the initial purchase price assumed for the vehicle. Vehicle prices have increased substantially over the last four years, affecting lease costs as well as interest and depreciation costs.

The key to the Table is probably the subsidy issue. Most employers provide administration. Some add insurance and other items. Not included in this Table are those van uses that help defray the fixed costs. Some employers use the vehicles during the day for business purposes and reimburse the van fund. Finally, some employers chose leasing which eliminates the need for front end money but increases the fixed cost. Minimizing fixed costs is an important objective, particularly for shorter trips.

Table II presents a summary of variable costs associated with vanpool operation. Unlike fixed costs, operating expenses vary over an incredibly small range ($0.093 to $0.11 per mile).

Table III presents a summary of monthly fares charged vanpoolers for each of the four selected programs. These fares demonstrate the greater desirability of vanpooling for long commutes. The cost per mile decreases substantially as the round trip distances increase.

Three of the four programs presented in Table III have fare structures that are similar (i.e. Conoco, TVA, University of Tennessee). The Michigan fares are higher for two reasons: (1) the fixed van costs are high, and (2) breakeven ridership is lower than it could be.

Minimizing the Cost of Vanpooling

Minimizing the cost of vanpooling is essential if riders are to be attracted and become permanent vanpoolers. Although cost is not the only attraction to a potential vanpooler, it is, nevertheless, of significant concern. As the previous discussion indicated, fixed costs are the major expense and have, along with the number of passengers carried, the most significant effect on fare structure. Insurance, interest and depreciation are the largest fixed expenses.

TABLE I

Comparison of Fixed Vanpooling Costs
from
Selected Vanpooling Programs

Expense	Monthly Expense ($ rounded) Conoco	TVA	Michigan	Univ. of Tennessee
Parking	30	--	--	--
Interest	--	62	--	37
Depreciation	95	148	200[2]	121
Administrative	--	23	--	--
Insurance [1]	--	51	50	32
License	--	3	8[3]	2
Safety Inspection	--	--	--	--
TOTAL	125	287	258	192

Source: See "References" at the end of this report.

1. Insurance costs are highly variable. Nonprofit vanpool corporations appear to be particularly burdened with high insurance costs. The Commuter Computer Corporation of Los Angeles pays $1,750.00 for each van each year for insurance ($146/month). Even with this high insurance cost added to other expenses, this corporation has 70 vans in operation.

2. This figure is the lease cost.

3. Includes license and taxes.

TABLE II

COMPARISON OF VARIABLE VANPOOLING

COSTS FROM SELECTED VANPOOLING PROGRAMS

Expense	Per Mile Expense ($)			
	Conoco	TVA	Michigan	Univ. of Tennessee
Gasoline	0.061	0.07	0.065	0.06
Oil	0.013	- [1]	0.010	0.003
Maintenance	0.015	0.02	0.015	0.015
Tires	0.007	0.02	0.010	0.015
TOTAL	0.096	0.11	0.10	0.093

Source: See "References" at the end of this report.

1 Included in other expenses.

TABLE III

A COMPARISON OF MONTHLY FARES FOR

SELECTED VANPOOL PROGRAMS

Daily Mileage (Round Trip)	MONTHLY FARES ($)			
	Conoco	TVA	Michigan[2]	Univ. of Tennessee
20	21	--	33	25
30	23	--	35	27
40	25	--	39	30
50	27	--	42	33
60	29	27.50[1]	46	35
70	31	--	49	38

1 Fares were not reported by mileage except for the average trip. It was reported, however, that fares range from $18 to $46 per month.

2 Assumes nine (9) passenger per van and 21 working days per month.

Depreciation and Interest:

These two variables usually go together since they are included in both leasing and time purchase of vehicles. Even if vehicles are purchased for cash, the time value of the money invested as well as depreciation must be considered.

Typical lease arrangements are described in the "Vanpool Implementation Manual."

- Leases can be open or close-ended (i.e. price of vehicle is guaranteed at the end of the least), with or without maintenance, insurance and licenses, and with or without option to buy at the end of the lease.

- Lease rates vary with the financial risk the lessor is expected to assume. Where the lessee is willing to assume all the risk, lease rates are almost identical to automobile finance charges.

- A decision to lease will depend on (a) availability of an interested, aggressive lessor; (b) lessee cash position; (c) tax options (e.g. use of investment tax credit); and (d) ability to dispose of vehicles at the end of their useful lives.

Within the Denver area, new fully equipped vans can be leased for three years at about $180-225 per month. A sizeable penalty exists for terminating the lease sooner than agreed to. One year leases cost is frequently quoted at approximately $400 per month. The lease cost often includes accelerated depreciation such as sum of the year digits depreciation for tax purposes. All contracted leasing services permit allocation of lease payments to van purchase, if desired. Insurance is not usually included in lease costs.

Since lease costs and monthly finance payments are nearly identical, the key concern is salvage value. The Conoco approach to monthly cost is definitely the least cost approach to depreciation and interest. Vans are purchased and amortized over 48 months assuming a realistic salvage value. Although Conoco does not assume a discount rate in its calculation, doing so would still provide a monthly depreciation and interest cost considerably less than a leasing arrangement.

Insurance:

Insurance costs vary over a wide range. Monthly rates of between $32 and $146 are found in the literature. This wide range of rates apparently is attributable to two major factors:

(1) the reluctance of insurance companies to cover third party vanpool operations (liability is difficult to establish under third party conditions) and,

(2) geographical variation in established rates.

Wherever possible, vanpool insurance costs should be minimized by including them under a master policy or through "self" insurance. Currently, insurance rates are in a state of flux. Rates should become more stable, and lower, as insurance companies gain more experience with vanpooling.

Breakeven Ridership:

Two additional factors in determining fares are the size of the van (e.g. 12 or 15 passenger) and the assumption made for breakeven load (e.g. 8 passengers, 10 passengers). To minimize costs, the van capacity should closely approximate the breakeven load. For example, a 15-passenger van should not be used to transport 8 passengers. Furthermore, the breakeven load should be established as high as practical.

CHAPTER VII BENEFITS OF VANPOOLING

Vanpooling has been almost universally successful. In fact, it is very difficult to find examples of programs that have failed. The success of vanpooling can be attributed to the benefits it provides. The magnitude of these benefits are a function of the previous mode used for work travel. If, for example, all vanpool members were former single occupant vehicle commuters, reductions in fuel consumed, air pollutant emissions and traffic are decreased by approximately the number of participants in the vanpool.

Participants in vanpooling benefit the most, but there are societal benefits as well. Vanpool riders benefit primarily because of reduced commuting costs and freedom from driving (i.e. the opportunity to read or work during the trip to and from work). Furthermore, vanpooling has proven in practice to be a safe mode of travel. The vanpool driver also benefits economically since he normally receives free transportation and use of the vehicle on non-workdays and evenings. In some instances, the driver receives fare revenues beyond the breakeven passenger load.

Societal benefits include reduced air pollution, reduced gasoline consumption, less traffic congestion and reduced need for highway and transit construction. In employer-based vanpooling programs, the employer benefits as a result of decreased demand for parking. In addition, congestion surrounding plant locations is decreased and the program provides an added employee fringe benefit which helps maintain a quality workforce.

Participant Benefits

Rider/driver benefit estimates are available for most employer-sponsored vanpool programs. Conoco estimates that the former drive alone commuter saves between $26 and $84 per month depending upon trip length. Other reports, such as the University of Tennessee publication, "How To Put Together A Vanpool" agree with the Conoco findings. In fact, some would indicate that Conoco's figures are conservatively low and that savings of over $200 per month would apply to long commutes (e.g. 100 mile round trip).

Vanpool travel is quite safe. Frank W. Davis, *et al* in "Insurance for Vanpools: An Analysis of Current Issues and Progress," reports the following findings:

Vehicle Category	Deaths * (1975)	Accidents** (1974)	(1972-1974)
Buses (all)	0.15	23.0	21.4
City		57.3	56.5
Suburban		26.3	25.3
School	14.10	16.9	
Passenger Cars (taxi excluded)	1.40	63.6	7.49
Vanpools		3.76	3.78

*per 100 million passenger miles

**per 1 million vehicle miles

Statistically, of common vehicular modes of transportation, vanpooling has the lowest accident rate compared to buses and passenger cars. As of May 1977, fortunately, there had not been a single serious vanpool accident.

Societal Benefits

Societal benefits are more difficult to calculate because the results are a function of former commute mode. Most of the programs seem to attract former drive alone commuters and carpoolers. Because vanpooling works best for long commutes (15 miles or more one-way distance) mode shifts from transit to vanpool do not appear to be common. Thus, the net result of vanpooling is virtually always reductions in energy consumed, air pollution emitted and traffic congestion.

A report published by the Congressional Budget Office in December 1977, entitled "Urban Transportation and Energy: The Potential Savings of Different Modes" concludes, "Of all the urban transportation modes, vanpools can probably make the greatest contribtuion to energy savings on a per passenger-mile basis." The results of that report are presented in Table IV.

Other estimates of benefits to society have been made for several vanpool programs by their sponsors. In their second status report, 3M estimated that their program saves over 190,000 gallons of gasoline per year and reduces vehicular travel by 2.25 million miles annually.

TABLE IV

ENERGY REQUIREMENTS BY TRAVEL MODE

IN BTU'S PER PASSENGER MILE

	Operating Energy Intensity	Line-Haul Energy	Modal Energy	Program Energy (Net Savings)
Single-Occupant Automobile	11,000	14,220	14,220 a/	N/A
Average Automobile	7,860	10,160	10,160 a/	N/A
Carpool	3,670	4,740	5,450	4,890
Vanpool	1,560	2,020	2,420	7,720
Dial-a-Ride	9,690	12,310	17,230	(12,350) b/
Heavy Rail (old)	2,540	3,100	3,990	N/A
Heavy Rail (new)	3,570	4,550	6,580	(980) b/
Commuter Rail	2,625	2,890	5,020	970
Light Rail	3,750	4,280	5,060	30
Bus	2,610	2,820	3,070	3,590 c/

N/A = Not applicable

a/ By definition, there are no access energy requirements for automobile, so modal energy equals line-haul energy.

b/ Energy loss.

c/ For new express bus service. Conventional bus service would show smaller savings.

Furthermore, the program reduced the demand for parking spaces at 3M offices by more than 735. A summary of the benefits of 3M's program is presented in Table V.

Conoco has developed generalized per van figures for benefits. According to their calculations, a vanpool saves approximately 8,000-9,000 gallons of gasoline per year. Vehicular travel is reduced by approximately 81,000 miles per year by one vanpool. Conoco's estimate for air pollution reduction is about four tons per year per vanpool.

We have not developed our own figures since benefit calculations are only as accurate as the before and after data used. Conoco's and 3M's figures are reasonable approximations when prior commuting was either drive alone or carpool. Care must be taken if mode shifts from large carpools or mass transit occur.

TABLE V

3M COMMUTE-A-VAN PILOT PROGRAM

SUMMARY OF OVERALL BENEFITS

Benefits to 3M:

- reduced congestion at 3M installations
- reduced demand for parking
- reduced capital expenditures for auto related facilities
- more efficient use of land at 3M installations

Benefits to Users:

- save money
- reduced risks and tension of commuting
- greater availability of car for use by family members thereby increasing their mobility and social-economic opportunities

Benefits to Non-User:

- reduced congestion and parking demand in and around 3M installations

Benefits to General Public:

- reduced congestion on streets and highways
- reduced land use for auto related facilities
- positive effect on the environment - less air and noise pollution
- reduced energy consumption

Reproduced from The 3M Commute-A-Van Program Status Report II, January 1977

CHAPTER VIII NATIONAL ASSOCIATION OF VANPOOL OPERATORS (NAVPO)

Vanpooling has proven itself to be a popular viable widespread movement. There was sufficient interest among vanpoolers to join together in national organization.

In 1976 the National Association of Van Pool Operators (NAVPO) was formed. As of November 1977, this organization consisted of about 170 dues paying members.

The NAVPO has several objectives, among them are:

- Deregulate vanpooling at Federal level and in the 50 states.
- Double the number of vanpool programs by the end of 1978.
- Work to have uniform insurance requirements for vanpools at the lowest possible rates.
- Strengthen government commitment to vanpooling.
- Involve labor organizations in supporting vanpooling.

The NAVPO tries to influence Congressional legislation favorable to vanpooling. For example, it recently endorsed a 20% investment tax credit for van purchases. Congress did not favorably act on this proposal.

The NAVPO provides general, utilitarian information and data on vans for use by companies and individuals. For example, it has compared various types of vans available for vanpooling, pointing out features of each van.

This organization is a positive, national growing force for vanpooling.

SUMMARY

Vanpooling works. Since 1973 there has been steady impressive growth in vanpooling throughout the nation. Industry, state government, and federally affiliated or endorsed non-profit vanpool organizations are all actively involved in vanpool programs.

Vanpooling provides a number of direct benefits to the user: convenient, safe and inexpensive commuting travel. Energy is saved and vehicular pollution is minimized. The sponsoring entity can save on providing parking spaces and associated maintenance and tax costs. Positive public relations accrue to the provider of the van.

In the private sector there are fleets of company owned vans in commuting service. Conoco and 3M are leaders in vanpooling. A large number of employers lease vans for commuting employees. Other van acquisition arrangements are encountered.

Within the Denver metro area, Conoco and Johns-Manville have ongoing vanpool programs. Sundstrand has a van shuttle service between its plants. The Bureau of Reclamation provides shuttle service from hotels-motels in Downtown Denver and the Federal Center for official visitors. The State of Colorado has recently acquired two vans for use by commuting state employees.

In the public domain there are restrictions which often prohibit use of government leased or owned vans for personal commuting. The California Legislature amended State law to authorize use of state owned vehicles for commuting. In the federal sector, the TVA has a large, viable vanpool fleet in operation which is controlled and owned by TVA Employee Credit Unions. The Social Security Administration in Baltimore endorses the VANGO programs, which involves purchasing vans through a non-profit corporation.

Five different vanpool arrangements exist: owner (or leasee) operator, company-owned or leased, vanpool brokerage, and government guarantee and government-owned.

Legal and insurance issues are particularly complex and important. Vanpooling is a hybrid between carpooling and public conveyances, although decidely more like carpooling than public transportation. It is most important that the driver and rider understand insurance coverage.

Vanpooling is economically competitive with or less expensive than other means of transportation. Vanpool riders pay a monthly fare usually calculated from fixed and variable costs of owning or leasing and operating the van. Monthly cost per rider is about $20 to $40, depending on the distance traveled.

In summary, vanpooling is a new exciting concept in commuting and a viable solution to reducing motor vehicle air pollution.

REFERENCES

Articles of Incorporation of Rides for Bay Area Commuters, Inc.
Office of the Secretary of State, State of California
September 1977

Assembly Bill No. 3267
State of California, July 1976

"Demonstration Vanpool Project Sacramento Metropolitan Region First year Evaluation," Caltrans (California Department of Transportation) Office of Ridesharing, September 1976

"Vanpooling -an-Idea Whose Time Has Come," The Orange Disc vol.23,No.3, The Magazine of the Gulf Companies, Pittsburgh, PA 15230
January-February 1978

Vanpooling a Commuting Alternative That Works
Continental Oil Company, Houston, Texas
February 1977

"Transit in Smaller Cities: Ride-Sharing Brokerage," Municipal Innovations
International City Management Association, Washington, D.C.
July 1977

The 3M Commute-A-Van Program, Status Report II
3M Company, St. Paul, Minneapolis
January 1977

"Proposal for a State Employer Vanpool Program"
Michigan Department of State Highways and Transportation
August 1976

Literature from the National Association of Van Pool Operators (NAVPO)
Knoxville, Tennessee 1977

"Knoxville's Ridesharing Success Story," Planning
December 1977

"Sharing a Ride to Work," Tennessee Valley Perspective, Vol. 7,
Summer 1977

Insurance for Vanpools: An Analysis of Current Issues and Progress
Frank W. Davis et.al
Transportation Center, University of Tennessee, Knoxville, TN
May 1977

Vanpooling Go Via Van, Tennessee Valley Authority, Knoxville, TN
August 1976

REFERENCES

"Assessing Demand for Ride Sharing Services," Traffic Quarterly
Joseph J. Petrocelli and Thomas L. Bell
July 1977

"Urban Transportation and Energy: The Potential Savings of Different Modes"
The Congress of the United States, Congressional Budget Office
Washington, D. C. 1977

"Marketing Plan to Accelerate the Use of Vanpools"
U. S. Department of Energy, Washington, D. C.
December 1977 CR-04-60437-00

"Vanpool Executive Summary"
U. S. Federal Energy Administration, Washington, D. C.
February 1977 CR-04-60623

"Vanpool Implementation Manual"
U. S. Department of Energy, Washington, D. C.
February 1977 CR-04-60437-00

"How to Put Together a Vanpool"
U. S. Department of Energy, Washington, D. C.
December 1977 NP-22775 UC-96

"Vanpooling: A Summary and Description of Existing Vanpool Regulations"
Ira Forstater and Ed Twomey, U.S. Environmental Protection Agency
Washington, D. C. January 1976

"Everybody Wins With Vanpooling"
U. S. Department of Transportation, Washington, D. C.
Fall 1976

"Legal and Institutional Issues of Carpooling"
U. S. Department of Transportation, Washington, D. C.
January 1974

"TSM and Federal Highway Funds"
Federal Highway Administration Newsletter No.1
U. S. Department of Transportation, Washington, D. C.
November 1977

"Vanpools," U.S. Department of Transportation, Washington, D. C.
February 1977

Literature from VANGO, Linthicum, MD 1977

SUMMARY OF VANPOOL PROGRAMS - Reported in "Vanpooling: A Summary and Description of Existing Vanpool Programs" by Ira Forstater and Ed Twomey, Environmental Protection Agency in 1976

SPONSOR	ORGANIZATION TYPE	VAN PROVISION	ROUTES 1-Way	FARES	INSURANCE
Aerospace Corp. El Segundo, CA	Suburban private Company	Lease	10-38 door to door	1/3 monthly 2/3 daily	Self-insured with Commercial liability $56/
Allan M. Voorhees ans Associates Mclean, VA	Suburban private Company	Lease	15	$20/month	Special Van Policy
American Can Co. Greenwich, CT	Suburban private Company	Purchase	35	$32/month	Special Van Policy
Caltrans Sacramento, CA	Urban Government Agency	Lease	30-50	$28.60/35.40 per month	Special Van Policy
Cenex St. Paul, Minn	Suburban private Company	Lease	4-51 door to door	$.085 per mile	- -
Chrysler Detroit, Mich	Urban private Company	Manufacture own vehicles	5-35	$26-$39 per month	Self-insured
Continental Oil Co. Houston, TX	Urban private Company	Purchase	10-35	$20-$40 per month	- -
Cooper & Woodruff Amarillo, TX	Rural private Company	Purchase	average of 50 Park-n-Ride	NONE	Under Fleet Policy
Corning Glass Works Corning, N. Y.	Small Town Private Company	Purchase	25-60	$1.20 per day regardless of miles	- -
Erving Paper Mills Brattleboro, VT	Rural private Company	Purchase	25-40	$1.00 per day regardless of miles	- -
General Mills Minneapolis, Minn	Suburban private Company	Purchase	9-55 park-n-ride & door to door	$12.60/32.55 per month	Under Fleet Policy

Golden Gate Bridge San Francisco, CA	Urban Government Agency	Lease	46	- -	Special Van Policy
Gulf Research and Development Pittsburgh, PA	Suburban private Company	Lease	30-40	Monthly: $26-$29	Self-Insured
Hoffmann-LaRoche Pharmaceutical Nutley, N.J.	Suburban private Company	Lease with option to buy	9-60	$15-$30 per month	Special Van Policy $440 per year
Honeywell Corpor. Minneapolis, Minn	Suburban private Company	Lease	20-39	Average $25 per month	- - -
Modnar Atlanta, GA	Urban-suburban private operator	Purchase	10-35	About $30 per month	Special Van Policy
Montgomery Ward Chicago, Ill	Urban private Company	Lease	15-45	Average $25 per month	Self-insured w/added coverage under fleet
Nabisco East Hanover, N.J.	Suburban private Company	Lease	15-60	For 50/mi route $46 per month	- - -
Polaroid Corp. Boston, Mass.	Suburban private Company	Lease	30	- - -	Special Van Policy $750 per year
Prudential Insurance Newark, NJ.	Urban private Company	Purchase	23-36	Approx.17¢ per mile	Under fleet policy self-insured/collision
Ralph M. Parsons Pasadena, CA	Suburban private Company	Lease	25-55	Bi-weekly $17-$20	Self-insured
Reston Commuter Bus Reston, VA	New Town Community Organization	Purchase	25-30 door to door	Monthly $42-$44.50	Special Van Policy-$780 per yr.
Sarnia Commuter Van Cooperatives(Polisar) Sarnia, Ontario	Rural-Urban Community Organizations	Purchase	6 -8 and 35-40	Fees of $2 - $3 per week	- - -
Scott Paper Company	Urban private Company	Lease	13-23	$24-$29 per month	Under Fleet Policy $480 per year

Southern Calif. Commuter Bus Service Los Angeles, CA	Urban-Suburban private transit corporation	Purchase and Lease	18-65 Few to one	Average of $11 per week	- - -
Sperry Flight System Phoenix, AZ	Suburban private Company	Lease	19-33	$26 - $31 per month	Under Fleet Policy
Sperry Univac Minneapolis, Minn	Suburban private Company	Contract operator provides vans and drivers	130 per day per van	NONE	Contractor carries policy
Tektronix Portland, Oregon	Suburban private Company	Lease	Continuous 12/hrs ea day	NONE	- - -
Texas Instruments Dallas, TX	Suburban private Company	Purchase	30-65	$6.25-$10 per week	Self-insured
Tennessee Valley Aurhority Knoxville, Tenn	Urban Government Agency	Lease	Park-n-Ride 20-70	$22-$28 per month	Special Van Policy $532 per year
3M St. Paul, Minn	Suburban private Company	Purchase	25-76	$16.25-$48 per month	Under fleet Policy $480/yr
Utah County Provo, Utah	Small Town Government Agency	County Owned	20-23 Few to one	$.022 per mile	Special Van Policy $225/yr
Winnebago Industries Forest City, Iowa	Small Town Private Company	Manufacture own vans	Average about 35	$5.45-$7.30 per week	Self-insured with added liability coverage

Assembly Bill No. 3267

CHAPTER 382

An act to amend Sections 13950, 13951, and 25305 of the Government Code, relating to carpools.

[Approved by Governor July 8, 1976. Filed with Secretary of State July 9, 1976.]

LEGISLATIVE COUNSEL'S DIGEST

AB 3267, Calvo. Carpools.

Existing law permits state and local agencies to purchase automobiles for the use of their employees in the conduct of official business, and requires that rules and regulations be adopted to govern the use of such vehicles.

This bill makes findings and declarations about energy consumption, air pollution, traffic congestion and parking, and amelioration of such problems by using carpools and vanpools. The bill would permit the state to operate such programs and would define "county business" and "state business" to include the operation of county or state-owned or leased vehicles in a carpool or vanpool program for county or state employees, provided that an adequate fee is charged to fully reimburse the county or state for such service.

The bill would require the State Board of Control to prescribe rules and regulations governing the procedures to be used in the operation of state-owned vehicles as commute vehicles in a state carpool or vanpool program.

The people of the State of California do enact as follows:

SECTION 1. The Legislature hereby finds and declares that:

(a) Increased energy consumption, air pollution, traffic congestion and parking constitute a serious problem in the State of California, particularly in urban areas.

(b) The increased use of carpools and vanpools will contribute to conservation of fuel, improvement of air quality, and more effective use of existing streets, highways and parking facilities.

(c) Carpools and vanpools constitute one of the most cost-effective and energy-efficient modes of transportation.

(d) Cities, counties and the state employ a large number of people, many of whom work in, and commute to, urban areas where the problems associated with traffic congestion, parking, energy consumption and air pollution are greatest.

(e) It is in the public interest, and a public purpose, for cities, counties and the state to provide a carpool and vanpool program for their employees. It is therefore the purpose of this act to provide the

authority for cities and counties to establish carpool and vanpool programs.

SEC. 2. Section 13950 of the Government Code is amended to read:

13950. State-owned motor vehicles shall be used only in the conduct of state business. State business shall include the operation of state-owned vehicles as commute vehicles in a carpool or vanpool program authorized by a state agency, provided that a daily, weekly, or monthly fee is charged that is adequate to reimburse the state for the cost of providing such vehicles for such purpose. No state officer or employee shall use, or permit the use of, any state-owned motor vehicle other than in the conduct of state business.

SEC. 3. Section 13951 of the Government Code is amended to read:

13951. The State Board of Control shall prescribe rules and regulations which:

(a) Define the use of state-owned motor vehicles which constitutes use in the conduct of state business and distinguish such use from misappropriation for private use;

(b) Prescribe the procedure for determining and collecting from the employee responsible for the misuse the actual costs to the state attributable to misuse of state-owned motor vehicles and the disposition of such collections;

(c) Prescribe the records and reports to be kept and made by state agencies relating to the use of state-owned motor vehicles to the end that misuse may be discovered with a minimum of recordkeeping;

(d) Govern the storage of state-owned motor vehicles in those locations where storage space, under the jurisdiction of the Department of General Services, is available for storage of state-owned motor vehicles;

(e) Prescribe the procedures to be used in the operation of state-owned vehicles as commute vehicles in a state carpool or vanpool program.

SEC. 4. Section 25305 of the Government Code is amended to read:

25305. When in its judgment the public interest requires, the board may purchase automobiles for the use of county officers and county employees whose duties require frequent trips on county business. By ordinance the board shall adopt rules and regulations governing the use of the automobiles and the imposition of proper penalties upon any person driving, operating, or using the automobiles contrary to the rules and regulations of the board. The board may purchase necessary automobiles and assign them to county boards and commissions or members thereof whose duties require frequent and adequate transportation in and about the county on county business.

County business shall include the operation of county-owned or county-leased vehicles as commute vehicles in a carpool or vanpool

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program authorized by the county for county employees, provided that a daily, weekly, or monthly fee is charged that is adequate to reimburse the county for all costs of providing, operating and maintaining vehicles for such purpose. The board of supervisors shall establish rules, regulations and procedures to be used in the operation of county-owned or county-leased vehicles in a county carpool or vanpool program for county employees.

The use of automobiles provided by the county pursuant to this section is in lieu of any other mileage allowed by law. The board may allow officers and employees using county automobiles their actual and necessary expenses when traveling on county business.

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State of California

OFFICE OF THE SECRETARY OF STATE

I, *MARCH FONG EU*, Secretary of State of the State of California, hereby certify:

That the annexed transcript has been compared with the record on file in this office, of which it purports to be a copy, and that same is full, true and correct.

IN WITNESS WHEREOF, I execute this certificate and affix the Great Seal of the State of California this

SEP 14 1977

March Fong Eu

Secretary of State

826917

ENDORSED
FILED
in the office of the Secretary of State
of the State of California

MARCH FONG EU, Secretary of State
By JAMES E. HARRIS
Deputy

ARTICLES OF INCORPORATION

OF

RIDES for bay area commuters, Inc.

I

The name of this corporation shall be: Rides for bay area commuters, Inc.

II

The purposes for which this corporation is formed under the provisions of the laws of the State of California are exclusively charitable and educational as herein set forth, the specific primary purposes for which it is formed being set forth in sub-paragraph (a) of this Article II:

(a) The specific activity in which the corporation is primarily to engage is providing ride-sharing services and other transportation related services to citizens in the (ten) San Francisco bay area counties of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma, and Santa Cruz.

(b) To solicit, collect, receive, acquire, hold and invest money and property, both real and personal, received by gift, contribution, bequest, devise or otherwise; to sell and convert property, both real and personal, into cash; and to use the funds of this corporation and the proceeds, income, rents, issues and profits derived from any property of this corporation for any of the purposes for which this corporation is formed;

(c) To act as trustee under any trust created to furnish funds for the principal objectives of this corporation and receive, hold, administer and expend funds and property subject to such trust;

(d) To purchase or otherwise acquire, own, hold, sell, assign, transfer or otherwise dispose of, mortgage, pledge, or otherwise hypothecate or encumber, and to deal in and with shares, bonds, notes, debentures or other securities or evidences of indebtedness of any person, firm, corporation or association and, while the owner or holder thereof, to exercise all rights, powers and privileges of ownership;

(e) To purchase or otherwise acquire, own, hold, use, lease (either as lessor or lessee), sell, exchange, assign, convey or otherwise dispose of and mortgage or otherwise hypothecate or encumber real and personal property;

(f) To borrow money, incur indebtedness, and to secure the repayment of the same by mortgage, pledge, deed of trust, or other hypothecation of property, both real and personal;

(g) To enter into, make, perform and carry out contracts of every kind for any lawful purpose without limit as to amount, with any person, firm, association or corporation, municipality, county, parish, state, territory, government (foreign or domestic) or other municipal or governmental subdivision; and

(h) To do all things necessary, expedient or appropriate to the accomplishment of any of the objects and purposes for which this corporation is formed, and generally to exercise all of tis power as are now or may hereafter be conferred by law upon nonprofit corporations under the laws of the State of California.

The foregoing statement of purposes shall be construed as a statement of both purposes and powers, and the purposes and powers stated in such clauses, except where otherwise

expressed, shall be in nowise limited or restricted by reference to or inference from the terms or provisions of any other clauses, but shall be regarded as independent purposes and powers.

Notwithstanding any of the above statements of purposes and powers, this corporation shall not engage in activities which in themselves are not in furtherance of the purposes set forth in sub-paragraph (a) of this Article II.

III

This corporation is organized pursuant to the General Nonprofit Corporation Law of the State of California.

IV

The County in the State of California, where the principal office for the transaction of the business of this corporation is to be located in San Francisco County.

V

The powers of this corporation shall be exercised, its properties controlled, and its affairs conducted by a Board to be known as the Board of Directors. The names and addresses of the persons who are appointed to act in the capacity of directors until the election of their successors are as follows:

NAME	ADDRESS
John Balshaw	1680 Kearny Court Petaluma, CA 94952
John B. Derby, Jr.	4783 Oak Twig Way Carmichael, CA 95608
Carter C. Reaves	118 Canon Drive Orinda, CA 94563

The number and tenure of office of directors, their powers and duties may be fixed or changed from time to time by amendment of the Articles of Incorporation of this corporation, or by amendment of the By-Laws of this corporation duly adopted by the vote or written assent of a majority of the voting members of the Board of Directors.

VI

The authorized number and qualifications of members of this corporation, the different classes of membership, if any, the property, voting and other rights and privileges of members and their liability for dues and assessments and the method of collection of dues and assessments shall be as set forth in the By-laws, provided, however, that any By-law fixing or changing the liability of the members of this corporation for dues and assessments may be adopted, amended or repealed only by the vote or written consent of a majority of the voting members of this corporation.

VII

The property of this corporation is irrevocably dedicated to charitable and educational purposes meeting the requirements for exemption provided by §214 of the California Revenue and Taxation Code. No part of the net income or assets of this organization shall ever inure to the benefit of any director or officer or member thereof or to the benefit of any private persons. Upon dissolution or winding up of the corporation, its assets remaining after payment of, or provision for payment of, all debts and liabilities of this corporation, shall be distributed to a non-profit corporation or corporations, fund or funds, or foundation or foundations, which are organized and operated exclusively for

charitable and educational purposes and which have established their tax exempt status under §501(c)(3) of the Internal Revenue Code, and which are qualified for exemption from taxation under §23701(d) of the California Revenue and Taxation Code. If this corporation holds any assets on a trust, or the corporation is formed for charitable purposes, such assets shall be disposed of in such manner as may be directed by decree of the Superior Court of the county in which the corporation has its principal office, on petition, therefore, by the Attorney General or by any person concerned in the liquidation in a proceeding in which the Attorney General is a party.

VIII

No substantial part of the activities of this corporation shall consist of carrying on propaganda, or otherwise attempting, to influence legislation, nor shall this corporation participate in, or intervene in (including the publishing or distributing of statements) any political campaign on behalf of any candidate for public office.

IX

Notwithstanding any other provision in these Articles of Incorporation, the corporation shall be subject to the following limitations and restrictions:

(a) The corporation shall distribute its income for each taxable year at such time and in such manner as not to become subject to the tax on undistributed income imposed by §4942 of the Internal Revenue Code of 1954.

(b) The corporation shall not engage in any act of self-dealing as defined in §4941(d) of the Internal Revenue Code of 1954.

(c) The corporation shall not retain any excess business holdings as defined in §4943(c) of the Internal Revenue Code of 1954.

(d) The corporation shall not make any investments in such manner as to subject it to tax under §4944 of the Internal Revenue Code of 1954.

(e) The corporation shall not make any taxable expenditures as defined in §4945(d) of the Internal Revenue Code of 1954.

IN WITNESS WHEREOF, for the purposes of forming this corporation under the laws of the State of California, we, the undersigned, constituting the incorporation of this

corporation and the persons named herein as the first directors of this corporation, have executed these Articles of Incorporation this 14th day of September, 1977

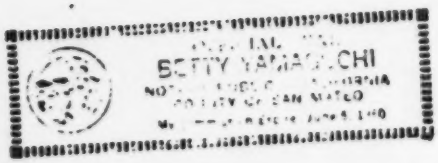
STATE OF CALIFORNIA)

) SS.

COUNTY OF SAN FRANCISCO)

On this 14th day of September, 1977, before me, the undersigned, a Notary Public in and for said State, personally appeared John Balshaw, John B. Derby, Jr., and Carter C. Reaves, known to me to be the persons whose names are subscribed to the foregoing Articles of Incorporation and acknowledged to me that they executed the same.

WITNESS my hand and official seal.



Betty Yamaguchi

(SEAL)